

REMARKS

Claims 1-36 are pending in this patent application.

Claims 7-36 stand rejected under 35 U.S.C. § 112, second paragraph, for alleged indefiniteness. The Office Action, for example, asserts that claims 7, 21, and 30 are indefinite with respect to variables a and R^{13} . Applicants believe that those skilled in the art would understand that R^{13} can be present (*i.e.*, when $a = 1$) but need not be (*i.e.*, when $a = 0$). The present claim language clearly describes these alternatives. Claim 10 has been amended to more clearly specify that variable a is equal to 1.

The Office Action also notes redundant language in claims 7 and 21 relating to variables p , q , r , and s . Applicants have amended the claims to more succinctly define their inventions.

The Office Action asserts that claim 12 is indefinite because "it appears to limit the A moieties to content that they must already have." (Office Action at page 2). Applicants note, however, that there is no requirement in claim 7 that the A moieties have the "content" recited in claim 12, *i.e.*, at least one of R^1 , R^2 , and R^3 . A compound according to claim 7 could, for example, have formula IIa or IIb with p and q both being zero. Claim 17 has been canceled.

Claims 1-10, 18-24, and 30-33 stand rejected under 35 U.S.C. § 102 as allegedly being anticipated by Egholm, *et al.*, *J. Chem. Soc. Chem Commun.* 1993, 800-801 ("the Egholm reference"). The Office Action asserts that the Egholm reference discloses PNA

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monomers bearing "base conjugate protective groups." (Office Action at page 3). Although Applicants do not necessarily concur that the Egholm reference anticipates the claimed subject matter, the rejection is believed to be moot in view of the foregoing amendments. Indeed, Applicants have amended the claims to define certain preferred compounds according to their invention wherein, for example, conjugates attached to nucleosidic bases are selected from a reporter enzyme, a reporter molecule, a steroid, a carbohydrate, a terpene, a peptide, a protein, a phospholipid, a cell receptor binding molecule, a crosslinking agent, a water soluble vitamin, a lipid soluble vitamin, an RNA/DNA cleaving complex, a metal chelator, a porphyrin, an alkylator, and a polymeric compound. Since these compounds are neither disclosed nor suggested by the Egholm reference, reconsideration and withdrawal of the rejection for alleged anticipation respectfully is requested.

Claims 1-4 and 6 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5, 166,315 ("the Summerton patent"). Applicants respectfully request

reconsideration of this rejection, as the Summerton patent neither discloses nor suggests any claimed invention. The principal basis for this rejection appears to be an alleged disclosure in the Summerton patent of a "generic variety" of peptide nucleic acids. (Office Action at page 4). Applicants note, however, that the Summerton patent does not disclose any peptide nucleic acid

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according to the present invention. As stated in, for example, claim 1, the peptide nucleic acids of the invention are compounds in which nucleobases are tethered to a backbone through amino groups therein. The Summerton patent nowhere so much as suggests such compounds. Indeed, as shown, for example, in Figure 8, the compounds disclosed by Summerton are ones in which nucleobases are tethered to backbones through carbon atoms, amide nitrogen atoms, or ureido nitrogen atoms therein. There is no suggestion of Applicants' claimed compounds, nor any teaching that would have led those of ordinary skill to such compounds. Given these deficiencies, it cannot reasonably be said that persons of ordinary skill reading the Summerton patent would have found the claimed compounds to have been obvious. Accordingly, reconsideration and withdrawal of the rejection under § 103(a) respectfully is requested.

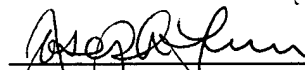
Claims 1-20 and 30-36 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting in view of claims 1, 3-5, and 9 of co-pending application Serial No. 08/108,591 ("the 591 application"). Claims 1-20 and 30-36 also stand provisionally rejected under 35 U.S.C. § 103(a) as being obvious over the entire 591 application. The basis for these rejections appears to be that the present claims and the claims and specification of the 591 application are not patentably distinct from one another because the "L" and "end" groups in both sets of claims included certain common members. Although Applicants do not

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necessarily concur that the subject matter defined by the present claims would have been obvious to those of ordinary skill in view of the 591 application, the rejections are believed to be moot in view of the foregoing claim amendments. Indeed, the present claims now define preferred embodiments which are neither disclosed nor suggested by the 591 application.

In view of the foregoing, Applicants submit that the claims presently before the Examiner patentably define the invention over the applied art and are otherwise in condition for ready allowance. An early Office Action to that effect is, therefore, earnestly solicited.

Respectfully submitted,



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